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0 20 40  
 GAAAATGGCGCCTCACGGCCCAGGTAGTCTTACGACCCGGTGCCTGGCTGCCGCCCT  
 CTTTACCGCGGAGTGCCGGGCCATCAGAATGCTGGGACCACGGGACCCGACGGCGGGA  
 M A P H G P G S L T T L V P W A A A A L  
 60 80 100  
 GCTCCTCGCTCTGGCGTGGAAAGGGCTCTGGCGCTACCCGAGATATGCACCCAAATGTCC  
 CGAGGAGCGAGACCCGCACCTTCCCAGACCGCGATGGGCTCTATACGTGGGTTACAGG  
 L L A L G V E R A L A L P E I C T Q C P  
 120 140 160  
 AGGGAGCGTGCAAAATTGTCAAAAGTGGCTTTATTGTAAAACGACACGAGAGCTAAT  
 TCCCTCGCACGTTTAAACAGTTTACCGGAAAATAACATTTGCTGTGCTCTCGATTA  
 G S V Q N L S K V A F Y C K T T R E L M  
 180 200 220  
 GCTGCATGCCGTTGCTGCCTGAATCAGAAGGGCACCATCTGGGGCTGGATCTCCAGAA  
 CGACGTACGGGCAACGACGGACTTAGTCTTCCCAGGTTAGAACCCCCGACCTAGAGGTCTT  
 L H A R C C L N Q K G T I L G L D L Q N  
 240 260 280  
 CTGTTCTCTGGAGGACCCCTGGTCCAAACTTCATCAGGCACATACCACTGTCATCATAGA  
 GACAAGAGACCTCCTGGGACCAAGGTTGAAAGTAGTCCGTGTATGGTGACAGTAGTATCT  
 C S L E D P G P N F H Q A H T T V I I D  
 300 320 340  
 CCTGCAAGCAAACCCCTCAAAGGTGACTTGGCCAACACCTCCGTGGCTTACTCAGCT  
 GGACGTTCGTTGGGGAGTTCCACTGAACCGGTTGTGGAAGGCACCGAAATGAGTCGA  
 L O A N P L K G D L A N T F R G F T Q L

**FIG. 1A**

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360

380

400

CCAGACTCTGATACTGCCACAAACATGTCAACTGTCTGGAGGAATTAATGCCTGGAATAC  
---+---+---+---+---+---+---+---+---+---+---+---+  
GGTCTGAGACTATGACGGTGTGTACAGTTGACAGGGACCTCCTTAATTACGGACCTTATG  
Q T L I L P Q H V N C P G G I N A W N T

420

440

460

TATCACCTCTTATATAGACAACCAAATCTGTCAAGGGAAAAGAACCTTGCAATAACAC  
---+---+---+---+---+---+---+---+---+---+---+  
ATAGTGGAGAATATATCTGTTGGTTAGACAGTTCCCGTTCTGGAAACGTTATTGTG  
I T S Y I D N Q I C Q G Q K N L C N N T

480

500

520

TGGGGACCCAGAAATGTGTCCTGAGAATGGATCTTGTGTACCTGATGGTCCAGGTCTTT  
---+---+---+---+---+---+---+---+---+---+---+  
ACCCCTGGGTCTTACACAGGACTCTTACCTAGAACACATGGACTACCAGGTCCAGAAAA  
G D P E M C P E N G S C V P D G P G L L

540

560

580

GCAGTGTGTTGTGCTGATGGTTCCATGGATACAAGTGTATGCCGCCAGGGCTCGTTCTC  
---+---+---+---+---+---+---+---+---+---+---+  
CGTCACACAAACACGACTACCAAAGGTACCTATGTTCACATACGCGGTCCCGAGCAAGAG  
Q C V C A D G F H G Y K C M R Q G S F S

600

620

640

ACTGCTTATGTTCTCGGGATTCTGGGAGCCACCACTCTATCCGTCTCCATTCTGCTTTG  
---+---+---+---+---+---+---+---+---+---+---+  
TGACGAATAACAAGAACGCCCTAACGACCCCTCGGTGGTGAGATAGGCAGAGGTAAGACGAAAC  
L L M F F G I L G A T T L S V S I L L W

660

680

700

GGCGACCCAGCGCCGAAAAGCCAAGACTCATGAACATAGGTCTTACCATGGACCTA  
---+---+---+---+---+---+---+---+---+---+---+  
CCGCTGGGTCGCGGCTTTCGGTTCTGAAGTACTGATGTATCCAGAATGGTAACTGGAT  
A T Q R R K A K T S \*

**FIG. 1B**

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720 740 760  
AGATCAATCTGAACATCTTAGCCCAGTCAGGGAGCTCTGCTTCCTAGAAAGGCATCTT  
-+-----+-----+-----+-----+-----+-----+-----+  
TCTAGTTAGACTTGATAGAACGGGTCAGTCCCTCGAGACGAAGGATCTTCCGTAGAAA  
  
780 800 820  
CGCCAGTGGATTGCCTCAAGGTTGAGGCCGCCATTGGAAGATGAAAAATTGCACTCCCT  
-+-----+-----+-----+-----+-----+-----+-----+  
GCGGTCACTAACGGAGTTCCAACCTCCGGCGGTAAACCTTCTACTTTAACGTGAGGGAA  
  
840 860 880  
TGGTGTAGACAAATACCAAGTTCCCATTGGTGTGTTGCCTATAATAAACACTTTTCTT  
-+-----+-----+-----+-----+-----+-----+-----+  
ACCACATCTGTTATGGTCAAGGGTAACCACAACGGATATTATTTGTGAAAAAAGAA  
  
900  
TTTAAAAA  
-+-----+-----+  
AAAATTTTTTTTTTTTTTTTT

**FIG. 1C**

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Human TGF $\alpha$       VVSHFNDCPDSHTQF-CFH-GTCRFLVQEDKPACVCHSGYVGARCEHADLIA  
                  | | | | |  
                  GQKNLCNNNTGDPREMCPENGSCVPDGPGLLQ-cVCADGFHGYKCMRQGSFSLIM  
TGF $\alpha$ -HII

FIG. 2